

CHECK →

Ship to AS Dart Aerospace Ltd.

Date: Wednesday, 5/31/2006 7:31:03 AM  
User: Kim Johnston



Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: SKID TUBE ASSEMBLY				
Job Number	: 27265A						
Estimate Number	: 10023						
P.O. Number	: N/A	Part Number	: D205634041				
This Issue	: 5/31/2006	S.O. No.	: N/A				
Prsht Rev.	: NC	Drawing Number	: D2580 REV C				
First Issue	: N/A	Project Number	: N/A				
Previous Run	: 26875A	Drawing Revision	: C				
	Type	: LANDING GEAR	Material	: N/A			
Written By	: <u>See Comment Below</u>	Due Date	: 6/6/2006	Qty:	2	Um:	Each
Checked & Approved By	: <u>06.05.31 W</u>						
Comment	: Est Rev: N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30 KJ Est Rev. O 06.02.28 Added paperwork EC						

Additional Product



Job Number: 

Seq. #:	Machine Or Operation:	Description :
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1.0	D25001190	Ext'n -1' Beam Tube 4"
		

Comment: Qty.: 1.0400 Each(s)/Unit Total : 2.0800 Each(s)  
Pick:

Qty	Part Number	Description	Batch
1	D2500-1-190	Skid Tube Extrusion	B24669 DP 06-6-5 ②

2.0	DC	DOCUMENT CONTROL
		

Comment: DOCUMENT CONTROL  
Photocopy D205-634 bluefile & type labels per PPP D205-634 CHG001

3.0	D2596	205 Web
		

Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)  
Pick:

Qty	Part Number	Description	Batch
1	D2596	205 Web	B26750 Pm 06-06-05 ②

4.0	LANDING GEAR 1	LANDING GEAR RESOURCE 1
		

Comment: LANDING GEAR RESOURCE 1

- 1- Inspect mat'l D2500-1-190 for damage
  - 2- Cut D2500-1-190 per Dwg D2580 if necessary Deburr ends
  - 3- Drill pilot holes using drill jig DT 8149
  - 4- Acid etch and Alodine tube per QSI 005 4.1
- DP 06-6-5  
PC 06-06-05

2

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)							
DATE	STEP	Description of NC Section A	Corrective Action		Section B		Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr		Sign & Date			

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_

NOTE: Date & initial all entries

NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Date: Wednesday, 5/31/2006 7:31:04 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SKID TUBE ASSEMBLY

Job Number: 27265A

Part Number: D205634041

Job Number:



Seq. #:

Machine Or Operation:

Description :

5-Open holes to 0.500" as per Dwg D2580 without cutting fluid

*pm' 06-06-05 (2)*

6-Countersink holes as per Dwg D2580 without cutting fluid

*pm' 06-06-05 (2)*

7-Deburr and blow out all chips from inside of tube

*pm' 06-06-05 (2)*

8-Bond web in place per QSI 015. Allow 12 Hrs. cure time before cutting

Pick:

Qty Part Number Description Batch

A/R Sikaflex-291 *m01126*

Sikaflex expire date: *06-11-01*

Start Time: *5:00*

Fin Time: *11:45 6-6-06*

*pm' 06-06-05 (2)*

5.0

BENDING

BENDING MACHINE



Comment: BENDING MACHINE

Bend as per program D2580.C on CNC Bender and Folio FT009

*DP 6666 (2)*

6.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Cut tubes as per Dwg. D2580

*DP 6-6-06 (2)*

2-Deburr ends after cutting. Remove alodine from around holes

*DP/pm' 06-06-06 (2)*

7.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

*BE 06-06-07 (2)*

8.0

D25763

Step (Machining Detail)



Comment: Qty.: 1.0000 Each(s)/Unit Total: 2.0000 Each(s)

Pick:

Qty Part Number Description Batch

1 D2576-3

Step

*B22141 BE 06-06-07 (2)*

W/O:		WORK ORDER CHANGES						
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Drawing Name: SKID TUBE ASSEMBLY

Job Number: 27265A

Part Number: D205634041

Job Number:



Seq. #:

Machine Or Operation:

Description :

9.0

D2579

Crossbolt Spacer



Comment: Qty.: 20.0000 Each(s)/Unit Total: 40.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
20	D2579	Spacers	B25977 06-06-07 (2)

10.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Prepare tube for welding D2576-3 StepRemove alodine as required.

BE 06-06-08 (2)

2-Weld step D2576 as per Dwg. D2580 and QSI 004

A/R

Aluminum Rod

M19101

BE 06-06-08 (2)

3-Weld crossbolt spacers D2579 as per Dwg. D2580 and QSI 004. For D2579

spacers, weld one

side, pass 3/8" drill, weld other side, pass 3/8" drill

A/R

Aluminum Rod

M19101

BE 06-06-08 (2)

4-Grind welds as per Dwg D2580 Grind flush ridge made from bending

DP 06-06-12 (2)

5-Drill holes for wearplates using DT 8217Open holes to 19/64", adjust stopper not to hit web. Deburr

6-Counterbore crossbolt spacers to 7/16" ID x 1.0" deep as per Dwg D2580. Deburr holes

7-Drill pilot holes for aft cap using DT 8215Open holes to #6 Drill bit. Deburr

8-Drill pilot holes for Tow ring using DT8091, open to .640"and Deburr

DP 06-06-12 (2)

11.0

QC5/9

WELD INSPECTION



Comment: WELD INSPECTION

Inspect weld and Counterbore work to Step 20

PD 06-06-13 (2)

06-06-13 (2)

12.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

1-\*\*\*\*\*Srub down tube with Scotch Bright and touch up alodine\*\*\*\*\*

\*\*\*\*\*see JLM if any questions\*\*\*\*\*

for this w/o only

06-06-13 (2)

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Job Number: 27265A

Part Number: D205634041

Job Number:



Seq. #:

Machine Or Operation:

Description :

2-Powder Coat White (Ref: 4.3.5.2) as per QSI 005 4.3

DL 06/06/13 (2)

13.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

a.m 06-06-14 (2)

14.0

D25771

Wearplate Fwd



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
1	D2577-1	Wearplate	B25137

15.0

D25773

Wearplate Aft



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
1	D2577-3	Wearplate	B25171

16.0

D25775

Wearplate, Centre



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
1	D2577-5	Wearplate	B 24878

17.0

ALS71032130

Insert



Comment: Qty.: 44.0000 Each(s)/Unit Total : 88.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
1	ALS7-1032-130	Washer	M18293

INSERT

a.m 06-06-14 (1)

W/O:		WORK ORDER CHANGES						
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Job Number: 27265A

Part Number: D205634041

Job Number:



Seq. #:

Machine Or Operation:

Description :

18.0

AN960JD10L

Washer



Comment: Qty.: 44.0000 Each(s)/Unit Total : 88.0000 Each(s)

Pick:

Qty Part Number Description Batch  
44 AN960JD10L Inserts M18235  
*WASHER*

19.0

AN34A

Bolt



Comment: Qty.: 44.0000 Each(s)/Unit Total : 88.0000 Each(s)

Pick:

Qty Part Number Description Batch  
44 AN3-4A Bolt M18310

20.0

D25941

Plug



Comment: Qty.: 16.0000 Each(s)/Unit Total : 32.0000 Each(s)

Pick:

Qty Part Number Description Batch  
16 D2594-3 O-RING B24104

21.0

D25943

O-Ring



Comment: Qty.: 16.0000 Each(s)/Unit Total : 32.0000 Each(s)

Pick:

Qty Part Number Description Batch  
16 D2594-1 Plug B24062

22.0

D2855

Cap



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)

Cap

Batch: B23925A

23.0

AN35A

Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total : 4.0000 Each(s)

Bolt

Batch: M15205

*am 06-06-14*

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action			Verification Section C	Approval Design Mgr	Approval QC Inspector
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_

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Job Number: 27265A

Part Number: D205634041

Job Number:



Seq. #:

Machine Or Operation:

Description :

24.0

AN960JD10L

Washer



Comment: Qty.: 2.0000 Each(s)/Unit Total: 4.0000 Each(s)

Washer

Batch: m18235

a.m 06-06-14 ①

25.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

\*\*\*\*\*Seal wearplates with sikaflex for this w/o only\*\*\*\*\*

\*\*\*\*\*Spray inside tube with LPS 3 for this w/o only Batch: m101092

\*\*Coat all hardware with LPS Procyon for this w/o only Batch: m17168

\*\*\*\*\*See JLM if any Questions\*\*\*\*\*

a.m 06-06-14 ①

1-Install inserts & wearplates as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates

A/R Sikaflex-291 m101193

Sikaflex expire date: 06-11-06

a.m 06-06-14

PTO

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580

a.m 06-06-14 ①

3-Inspect for foreign object per QSI 024

4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step & Aft Cap with Sikaflex. Clean excess adhesive

A/R Sikaflex-291 m101193

Sikaflex expire date: 06-11-06

5-Wing Walk as per Dwg D2580 and QSI 005 4.4

Batch: m100652

a.m 06-06-14 ①

26.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024

27.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D205-634-041

Location:

PPP Rev: N/A

06/6/15

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector
06/06/14	25.1	<del>QC5 Inspection inserts, prior to installing wearplate</del>		DL	06/06/14	1		

NCR:		WORK ORDER NON-CONFORMANCE (NCR)							
DATE	STEP	Description of NC Section A	Corrective Action		Section B		Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr		Sign & Date			

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_

NOTE: Date &amp; initial all entries

NCR: Yes ☒ No ☐ DQA: DD Date: 06/06/15

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Date: Wednesday, 5/31/2006 7:31:05 AM  
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## Process Sheet

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Drawing Name: SKID TUBE ASSEMBLY

Job Number: 27265A

Part Number: D205634041

Job Number:



Seq. #:

Machine Or Operation:

Description :

28.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL  
Inspection Level 21

*Handwritten:* 26/06/15

Job Completion



*Handwritten:* 26/06/15

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_

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NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_



RELEASED  
98/09/17 DS

DESIGN DIP	DRAWN BY P	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED DIP	APPROVED P	DRAWING NO. D2580	REV. C SHEET 1 OF 2
DATE 98.08.26		TITLE 205 SKIDTUBE ASSEMBLY	SCALE NTS
A	96.09.16	NEW ISSUE	
B	96.12.02	AS MANUFACTURED	
C	98.08.26	REDRAWN, INCLUDED DEO 9094/9097	

QTY	Part Number	Description
X	D2580-041	SKIDTUBE ASSEMBLY
*	D2500-1	EXTRUSION
1	D2596	205 WEB
1	D2575	AFT CAP
1	D2576 - 3	STEP
20	D2579	CROSS BOLT SPACER
16	D2594-1	PLUG
16	D2594-3	O-RING
1	D2577-1	WEARSHOE
1	D2577-3	WEARSHOE
1	D2577-5	WEARSHOE
44	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or ALS4-1032-130	INSERT
46	AN3-4A	BOLT
46	AN960JD10L	WASHER

# 00 08.28  
UP 01.08.28

EFFECTIVE DEOS  
98/12/14  
DEO 9124  
DED 9183

#### GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) LENGTH OF D2500-1 EXTRUSION BEFORE BENDING = 190 INCHES \*
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (44 PLACES) AFTER FINISH. INSTALL AN3-4A BOLTS AND AN960JD10L WASHERS WITH SIKAFLEX-241.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:  
ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB  
POWDER COAT ASSEMBLY GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

SHOT COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 27265A

Diagram illustrating the underside of a component, showing grinding locations and features:

- GRIND FLUSH (4 PLACES)
- GRIND FLUSH
- GRIND FLUSH
- LOCATION RIDGE ON UNDERSIDE OF D2576
- STEP

#0.208  
DRILL PRIOR TO D2575 CAP  
INSTALLATION (2 PLACES)

AN3-4A BOLT (1)  
AN960J10L WASHER (1)  
(2 PLACES)

D2575 CAP

SEAL WITH SIKAFLEX-241

0.40

D2579 SPACER

WEB (REF)

130 (REF)

AFTER PERFORM  
1. CHA  
2. INSE  
3. WE

AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR #0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH.
4. C-BORE D2579 SPACER TO .0437 X 1.00 DEEP

[illegible]

Diagram illustrating a horizontal curve with two circular arcs. The first arc has a radius of 13.4 and a central angle of 4°. The second arc has a radius of 32.0 and a central angle of 4°. The distance between the hole and the tangent point for the first arc is 1.0. The distance between the hole and the tangent point for the second arc is 1.0. The total length of the curve is 20.0. The vertical offset at the end of the curve is 1.1. The horizontal distance between the two tangent points is 1.4.

0.5

1.5

1.5

D

P

P

P

P

P

P

P

BLACK ANTI-SKID TO 0.5 ABOVE LOCATION RIDGE

WELD AS PER DETAIL B

BLACK ANTI-SKID TOP OF STEP TO 0.5 ABOVE BOTTOM EDGE

1.5

1.5

1.5

1.5

REFER TO DETAIL C

D2577-3

D2577-5

D2577-1

(8)


AN3-4A BOLT (1)  
AN96QJ10L WASHER (1)  
(44 PLACES)

DESIGN  
*R10A*

DRAWN BY  
*C82*

**DAR**

RELEASE  
98/09/17 DS

DESIGN <i>DAH</i>	DRAWN BY <i>CP</i>	 <b>DART AEROSPACE LTD</b> MISSISSAUGA, ONTARIO, CANADA
CHECKED <i>DAH</i>	APPROVED <i>JS</i>	
DATE 98.08.26	DRAWING NO. D2580	REV. C SHEET 2 OF 2
	TITLE 205 SKIDTUBE ASSEMBLY	SCALE 1:24

D2596 WE  
 STOP COPY  
 1032  
 RETURN TO  
 ENGINERING  
 UNCONTROLLED COPY  
 SUBJECT TO AMENDMENT  
 WITHOUT NOTICE  
 WORK ORDER  
 NO. 27765A



